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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 November 2010</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-32,34-63,65-79,83,92,94,101,103 and 112-119</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-32,36-63,65-69,83,92,94,101,103 and 112-119</u> is/are rejected.

7)☒ Claim(s) <u>34 and 35</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>11/12/2010, 12/2/2010</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is responsive to communications filed on November 12, 2010.

Claims 1, 4, 9, 10, 15, 17, 19, 20, 24, 39, 52, 56, 63, 66, 78, 83, 92, 94, 101, 103, and

112 have been amended. Claims 1-32, 34-63, 65-79, 83, 92, 94, 101, 103 and 112-119

are pending in the application.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

        Claims 1-3, 11-12, 14, 16, 18, 21, 28-30, 32, 36, 42-47, 50-53, 55-61, 83, 112-

116 and 118 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare et

al. (USPN 6,414,955) (hereinafter Clare) in view of Wichter et al. (USPN 5,608,643)

(Hereinafter Wichter) and Acampora (US 6,751,455).

3.   Referring to claim 1, Clare discloses a sensor network comprising a plurality of

network elements including:

        at least one node (Figures 1-10) coupled among a monitored environment (col. 6,

lines 10-30) and at least one client computer (the Office takes the term "client computer"

to be broadly construed as "any node which is accessible by a user of the system") (col.

14, lines 12-34),

wherein functions of the at least one node are remotely controllable using the at least one client computer (col. 14-lines 12-34; col. 15, lines 13-16),

wherein the at least one node provides, after the plurality of network elements are self-assembled into a multi-cluster network (i.e. "after the communicating nodes and the interfering nodes have been identified") node information to the plurality of network elements (col. 4, lines 56-67; col. 15, lines 10-24 and 43-56),

wherein the data processing is distributed through the sensor network including at least one of the elements other than the client computer (i.e. "the new node is informed of the local network traffic, routing, and communication schedule") in response to the node information (col. 4, line 58 to col. 5, line 2; col. 18, lines 35-64).

Clare does not specifically disclose that the objects for data processing comprise data and executable code. Nor does Clare specifically disclose that the distribution of data processing varies dynamically based on message priority.

In analogous art, Wichter discloses another distributed sensor network (Status sensors 28; col. 5, lines 52-61) where a node controllable by a client computer distributes data to be processed by other data processing units (col. 10, lines 30-34; col. 4, lines 13-17; col. 8, lines 48-57; col. 8, lines 58-60) and the objects for data processing comprise data and executable code (col. 2, lines 31-34; software modules (executable code) are distributed to the data processing units). Wichter further discloses that the distribution of data processing varies based on message priority (col. 11, lines 52-61).

It would have been obvious to one of ordinary skill in the art to combine the teaching of Wichter with Clare in order to enable managing of a plurality of

sensors/devices from a remote location and to allow important messages to be

processed immediately while the processing of less important messages, such as status

requests, can be delayed until there are no more high priority messages remaining

(Wichter, col. 9, lines 43-46; col. 11, lines 52-61).

Clare-Wichter does not specifically disclose that the distribution of data

processing varies based on energy cost for communication.

In analogous art, Acampora discloses a wireless mesh network of nodes (col. 12,

lines 55-99; Fig. 1) where the distribution of data processing varies based on energy

cost for communication (col. 4, lines 59-65; col. 6, lines 25-28; col. 10, lines 21-25; col.

10, lines 58-61).

It would have been obvious to one of ordinary skill in the art to combine the

teaching of Acampora with Clare-Wichter in order to conserve power in devices with

limited power sources (i.e., battery powered), so that the duration of communication

connectivity may be maximized and to minimize the duration, frequency, inconvenience

and expense of battery recharging or replacement (Acampora, col. 4, lines 4-10).

4.   Referring to claim 2, Clare discloses the at least one node includes sensing,

processing, communications, and storage devices supporting a plurality of processing

and protocol layers (col. 19, line 29 to col. 21, line 41).

5.   Referring to claim 3, Clare discloses the sensor network supports wireless

communications (e.g. abstract).

6.   Referring to claim 11, Clare discloses at least one local user is coupled to the at

least one node (col. 14, lines 12-34).

7.   Referring to claim 12, Clare discloses at least one redundant information

pathway is established among the plurality of network elements (Figure 3).

8.   Referring to claim 14, Clare discloses the plurality of node types includes at least

one node of a first type (user node) and at least one node of a second type (sensor

node) (Figure 14; col. 14, lines 12-34).

9.   Referring to claim 16, Clare discloses the plurality of network elements

automatically organize in response to the node information, wherein the automatic

organizing comprises automatically controlling data transfer, processing and storage

within the network (col. 6, line 35 to col. 18, line 1).

10.   Referring to claim 18, Clare discloses the data processing is controlled using at

least one processing hierarchy, controlling communications among the plurality of

network elements (col. 15, lines 10-24).

11.   Referring to claim 21, Clare discloses the functions of the at least one node

include data acquisition (col. 15, lines 10-15).

12.   Referring to claim 28, Clare discloses controlling data processing and data
transmission in response to a decision probability of a detected event (col. 15, lines 10-
15; col. 21, lines 15-25).

13.   Referring to claim 29, Clare discloses the at least one node includes at least one
seismic sensor (col. 19, lines 30-43).

14.   Referring to claim 30, Clare-Wichter-Acampora discloses the invention
substantively as described in claim 29. Clare-Wichter-Acampora does not specifically
state the one sensor is external to the one node, however "Official Notice" is taken that
both the concept and advantages of providing for an external sensor to the node is well
known and expected in the art. It would have been obvious to one of ordinary skill in
the art to include an external sensor to provide easy accessibility to the sensor by a
repairman, facilitating the ease of future upgrades or replacements.

15.   Referring to claim 32, Clare discloses the plurality of network elements are self
assembling, wherein search and acquisition modes of the node search for participating
elements (e.g. abstract).

16.   Referring to claim 36, Clare discloses synchronism is established among the
plurality of network elements using the assembly packets (i.e. communication schedules
between nodes) (col. 16, lines 28-67).

17.   Referring to claim 42, Clare discloses data is collected by the node and at least
one operation is performed on the data including energy detection (col. 20, lines 15-56).

18.   Referring to claim 43, Clare discloses wherein the routing, processing, storing
and fusing are performed in response to at least one result of the energy detection (col.
20, lines 15-56).

19.   Referring to claim 44, Clare discloses the routing comprises selecting a data type
for routing, selecting one of the plurality of elements to route the data, selecting a route,
and routing the data (i.e. a sensor device transmitting data to a user node for display)
(col. 18, lines 35-65).

20.   Referring to claim 45, Clare-Wichter-Acampora discloses the invention
substantively as described in claim 44. Clare-Wichter-Acampora does not specifically
disclose transmitting data in the message as a code in a codebook. "Official Notice" is
taken that both the concepts and advantages of providing for transmitting codes in
messages is well known and expected in the art. It would have been obvious to one of
ordinary skill in the art to include transmitting codes from a codebook in messages to

the system of Clare to conserve bandwidth in a low-power system, thereby conserving

available power for the network.

21.   Referring to claim 46, Clare discloses the processing comprises selecting at least

one data type for processing, selecting at least one processing type, selecting at least

one of the plurality of network elements to perform the selected at least one processing

type, and transferring the selected at least one data type to the selected at least one of

the plurality of network elements using at least one route through the sensor network

(col. 18, lines 35-64).

22.   Referring to claim 47, Clare discloses the selection of at least one processing

type comprises determining at least one probability (i.e. decision-making) associated

with a detected event (monitored environment settings) and selecting at least one

processing type in response to the at least one probability (i.e. if the decision is true, do

something different than if the decision is false) (Figure 15; col. 18, lines 35-64).

23.   Referring to claim 52, Clare discloses the at least one node includes a bi-static

sensor and a generator for producing at least one energy beam that is radiated from the

plurality of nodes, wherein the at least one energy beam comprises a combined probe

beam and a signal code for beam intensity control and propagation management,

wherein the at least one energy beam is modulated in time to provide an identifying

code corresponding to a source node, wherein the at least one energy beam is acoustic

(col. 22, lines 47 to 67).

24.   Referring to claim 53, Clare discloses determining a position of the at least one

node (col. 22, lines 35-67).

25.   Referring to claim 55, Clare-Wichter-Acampora discloses the invention

substantively as described in claim 1. Clare-Wichter-Acampora does not specifically

state protecting communications among the elements using a public key security

protocol. "Official Notice" is taken that both the concept and advantages of providing for

public key encryption in wireless devices is well known and expected in the art. It would

have been obvious to one of ordinary skill in the art to include public key encryption to

the system of Clare to provide a basic level of security, thereby reducing the

occurrences of eavesdropping by hackers and malcontents.

26.   Referring to claim 56, Clare discloses using a GPS device providing location and

time information (col. 7, lines 58-67).

27.   Referring to claim 57, Clare discloses the node has a communication modem

(i.e. a wireless antenna) (Figure 14 and related portions of the disclosure).

28.   Referring to claim 58, Clare discloses communications uses multihop

communications (Figures 1-10).

29.   Referring to claim 59, Clare discloses the monitored environment is an outdoor

area (col. 7, lines 58-67).

30.   Referring to claim 60, Clare discloses supporting short range and long range

communications (Figure 1).

31.   Referring to claim 61, Clare discloses the node is contained in a sealed and

waterproof system (Figure 14, and related portions of the disclosure).

32.   Claims 50, 51, 83, 101, 103, 112 and 119 are rejected for similar reasons as

stated above. Furthermore, referring to claim 103, Clare discloses that the distribution

of data processing comprises selecting a data type for processing, selecting one of the

plurality of elements to process the data, selecting a route, and transferring the data (i.e.

a sensor device transmitting data to a user node for display) (col. 18, lines 35-65).

33.   Referring to claim 113, Clare-Wichter-Acampora disclose the invention as

described in claim 112. Clare-Wichter-Acampora do not specifically disclose routing

data of a first type to a first device, and data of a second type to a second device,

however this feature is well known in the art (i.e. users interested in temperature data

are not interested in motion detection information and therefore would not be routed to those particular systems). By this rationale, "Official Notice" is taken that both the concepts and advantages of separating data destinations based on data type is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to modify the system of Clare-Wichter to route data of different types to different servers in order to separate processing over a distributed system and reducing overhead processing on one system.

34.   Claims 114 and 115 are rejected for similar reasons as stated above.

35.   Referring to claim 116, Clare discloses a sensor for collecting data, a preprocessor for collecting the data from the sensor (i.e. DSP) , and a processor to perform processing on the data (cols. 19-21).

36.   Claim 118 is rejected for similar reasons as stated above.

        Claims 4-10, 19, 25, 38-41, 48, 49, 62, 63 and 66, 67 and 69-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Wichter-Acampora in view of Myer et al. (USPN 6,615,088) (hereinafter Myer).

37.   Referring to claim 4, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare-Wichter-Acampora does not specifically

disclose the network includes a gateway, a server, and at least one hybrid wired and wireless network. Myer discloses another sensor network which includes at least one gateway 12, at least one server 25, and at least one hybrid wireless and wired network (Figure 1; col. 2, lines 52-67). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare-Wichter-Acampora to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

38.   Referring to claims 5 and 6, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare-Wichter-Acampora does not disclose the at least one gateway performs management of communications with at least one remote user. Myer discloses the at least one gateway node (control network portal 12) performs management of communications with at least one remote user (col. 4, lines 28-50). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare-Wichter-Acampora to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

39.   Referring to claim 7, Myer discloses that the at least one network includes wired networks, wireless networks and hybrid wired and wireless networks (Figure 1; col. 2, lines 52-67).

40.   Referring to claim 8, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare-Wichter-Acampora does not specifically disclose the network is the Internet. Myer discloses the network is the Internet 22, (Figure 1). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare-Wichter-Acampora to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

41.   Referring to claim 9, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare-Wichter-Acampora does not disclose providing remote accessibility using WWW-based tools to data, code, management, and security functions. Myer discloses providing remote accessibility using WWW-based tools to data, code, management, and security functions (Figure 2). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare-Wichter to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

42.   Referring to claim 10, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare-Wichter-Acampora does not specifically disclose that the gateway is coupled to the network elements, wherein the elements include repeaters and interrogators. Meyer discloses coupling a gateway with a plurality of network elements (Figure 1) and it is well known that repeaters and interrogators exist in the network (i.e. repeaters forward signals over long distances >100m which is

necessary for the Ethernet protocol). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare-Wichter-Acampora to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

43.   Referring to claims 19, 48, and 49 Clare-Wichter-Acampora discloses the invention substantively as described in claim 18. Clare-Wichter-Acampora does not specifically disclose aggregating data processed in a plurality of nodes for further processing by other nodes. Myer discloses polling devices by the master controller 36 in order to monitor the devices status, which can then be sent to a user interface device for display (the device status reports collected by the master controller 36 must inherently be processed by the client GUI device, or other node, in order for it to be displayable to the user) (col. 3, lines 15-25). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare-Wichter-Acampora to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

44.   Referring to claim 38, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare-Wichter-Acampora does not disclose comprising at least one database separate from the plurality of network elements. Myer discloses comprising at least one database separate from the plurality of network elements (col. 3, lines 45-50). It would be obvious to a person of ordinary skill in the art

at the time the invention was made to combine the teaching of Myer with Clare-Wichter-Acampora to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

45.   Referring to claim 39, Clare-Wichter-Acampora in view of Myer disclose the invention substantively as described in claim 38. Clare-Wichter-Acampora in view of Myer do not specifically disclose that cooperative sensing uses information in the database to provide non-local event correlation. However, it is well known that multiple sensors are used to monitor multiple characteristics of a system (two sensors in a CPU measuring voltage and thermal temperature to ensure that a chip is operating efficiently). "Official Notice" is taken that both the concepts and advantages of providing for cooperative sensing is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include cooperative sensing to the system of Clare-Wichter-Acampora and Myer to allow numerous physical characteristics to be monitored simultaneously to provide a more detailed description of the monitored area.

46.   Referring to claim 40, Clare-Wichter-Acampora in view of Myer discloses the invention substantively as described in claim 29. Claire further discloses data-driven alerting methods that recognize conditions on user-defined data relationships (i.e. user profiles) including coincidence in signal arrival, node power status, and network communication status (col. 18, lines 35-64).

47.   Referring to claim 41, Clare-Wichter-Acampora in view of Myer discloses the

invention substantively as described in claim 29. Although neither Clare-Wichter-

Acampora nor Myer specifically state implementing the database in a small footprint

database and in a SQL database systems at a level of at least one server, it is well

known that these features exist and would have been obvious to one of ordinary skill in

the art to incorporate a small footprint database to the invention of Clare-Wichter-

Acampora and Myer to provide the productivity and reliability that a SQL database

allows, while still keeping information search and retrieval times to a minimum.

48.   Claims 62, 63 and 66, 67 and 69-79 are rejected for similar reasons as stated

above. Furthermore Claim 62 recites limitations which are well known and expected in

the art (the concept of reusing code is the basis for object-oriented programming, that

code may be imported and reused in different situations) and would be considered

obvious to one of ordinary skill in the art. Claims 63 and 65-79 recite limitations

previously discussed and are further discussed in view of the other art below.

        Claims 13, 17, 25, 65 and 68 are rejected under 35 USC 103(a) as being

unpatentable over Clare-Wichter-Acampora in view of Kraus et al. (USPN 5,184,311)

(hereinafter Kraus).

49.   Referring to claim 13, Clare-Wichter-Acampora disclose the invention as

described in claim 1. Clare-Wichter-Acampora do not specifically disclose the use of a

plurality of layered synchronization levels. In analogous art (i.e. data collection using distributed sensors), Kraus discloses a sensor network which comprises a plurality of sensor nodes 201-20n which report data to a plurality of intermediate nodes 221-22p which then report the aggregated and collected data to a top level station 23 (Figure 2; col. 7, lines 11-33). It would have been obvious to one of ordinary skill in the art to combine the distributed data collection techniques of Kraus to the distributed sensor domain as described in Clare in order to realize the benefits of Kraus to the system of Clare, specifically the ability to monitor and characterize relatively small-scale effects rather than network-wide, thereby resulting in regional data correlation and aggregation (Kraus: col. 7, lines 15-20).

50.   Claims 17, 25, 65 and 68 are rejected for similar reasons as stated above.

        Claims 15, 54 and 117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Wichter-Acampora in view of Davis et al. (USPN 5,742,829) (hereinafter Davis).

51.   Referring to claim 15, Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Clare does not disclose distributing code and data anticipated for future use through the sensor network using low priority messages, wherein the code and the data are downloadable from a storage device. Davis discloses a network wherein distributing code and data anticipated for future use

through the sensor network using low priority messages (i.e. in the background), wherein the code and the data are downloadable from a storage device (it is inherent that the code/data are downloaded from a storage device) (col. 6, lines 27-65). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Davis with Clare-Wichter to facilitate the installation of software on heterogeneous clients on the distributed network, thereby reducing installation costs and reducing downtime as supported by Davis (col. 2, lines 10-15).

52.   Claims 54 and 117 are rejected for similar reasons as stated above.

       Claims 19, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Wichter-Acampora in view of Makansi et al. (US 2002/0154631) (hereinafter Makansi).

53.   Clare-Wichter-Acampora discloses the invention substantively as described in claim 1. Furthermore it is an inherent feature of Clare-Wichter-Acampora to aggregate the data to be transmitted to a user to conserve energy by reducing the amount of packets and saving bandwidth. Clare-Wichter-Acampora does not disclose the message packets include decoy packets wherein information to be transferred is impressed on random message packets to provide communication privacy. Makansi discloses message packets include decoy packets wherein information to be transferred is impressed on random message packets to provide communication privacy on a

network (e.g. abstract). It would be obvious to a person of ordinary skill in the art at the

time the invention was made to combine the teaching of Makansi with Clare-Wichter-

Acampora to provide messages to be transmitted in ways such that potential

adversaries are given access to a relatively little amount of information as supported by

Makansi (p. 1 ¶ 8).

        Claims 9, 22-24, 26, 27, and 37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Clare-Wichter-Acampora in view of Humpleman et al. (USPN

6,546,419) (hereinafter Humpleman).

54.   Referring to claim 9, Clare-Wichter-Acampora discloses the invention

substantively as described in claim 1. Clare-Wichter-Acampora does not disclose

having the node of the first type containing a preprocessor with a state machine, an API

and at least one sensor. Humpleman discloses a home sensor network wherein a first

node 14 of a first type (Device A) contains a preprocessor with a state machine (it is

inherent that a standard microprocessor emulates the effects of a state machine during

its pipelining of instructions, fetch, decode, execute, store, etc.), an API (INTERFACE-

A.xml), and at least one sensor (h/w) (e.g. abstract; Figure 16; col. 22, lines 52-58). It

would be obvious to a person of ordinary skill in the art at the time the invention was

made to combine the teaching of Clare-Wichter-Acampora with Humpleman to be able

to control a plurality of diverse devices having different capabilities to communicate in

order to accomplish tasks or to provide a service as supported by Humpleman (col. 2,

lines 38-45).

55.   Referring to claim 22, Clare-Wichter-Acampora discloses the invention

substantively as described in claim 1. Clare-Wichter-Acampora does not disclose

having the node of the second type including at lest one preprocessor coupled to at lest

one processor and a plurality of API's, wherein the plurality of API's are coupled to

control at lest one device. Humpleman discloses a home sensor network wherein the

node 14 of the second type (device B), contains at least one preprocessor coupled to at

least one processor (it is well known that a server computer has multiple

microprocessors embedded within the server which are either directly or indirectly

coupled together), a plurality of API's (INTERFACE-A.XML and INTERFACE-B.XML),

wherein the plurality of API's are coupled to control at least one sensor device (i.e.

smoke detectors) (e.g. abstract; Figure 16; col. 22, lines 52-58). It would be obvious to

a person of ordinary skill in the art at the time the invention was made to combine the

teaching of Clare-Wichter-Acampora with Humpleman to be able to control a plurality of

diverse devices having different capabilities to communicate in order to accomplish

tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

56.   Referring to claim 23, Clare-Wichter-Acampora discloses the invention

substantively as described in claim 1. Clare-Wichter-Acampora does not disclose

layering the plurality of API's. Humpleman discloses layering the plurality of API's in the

device (Figure 19, reference characters 72-92). It would be obvious to a person of

ordinary skill in the art at the time the invention was made to combine the teaching of

Clare-Wichter-Acampora with Humpleman to be able to control a plurality of diverse

devices having different capabilities to communicate in order to accomplish tasks or to

provide a service as supported by Humpleman (col. 2, lines 38-45).

57.   Referring to claim 24, Clare-Wichter-Acampora discloses the invention

substantively as described in claim 1. Clare further discloses enabling distributed

resource management by providing network resource information and message priority

information to the plurality of network elements (col. 14, lines 12-34; col. 15, lines 10-

25). Clare-Wichter-Acampora does not specifically disclose enabling distributed

resource management through the plurality of API's. However Humpleman discloses

using the API's to enable distributed resource management (i.e. enabling services to be

used via the API's) (Figures 15-19 and pertinent portions of the disclosure). It would be

obvious to a person of ordinary skill in the art at the time the invention was made to

combine the teaching of Clare-Wichter-Acampora with Humpleman to be able to control

a plurality of diverse devices having different capabilities to communicate in order to

accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-

45).

58.   Referring to claim 26, Clare discloses a preprocessor (ADC) performs data

acquisition, and the processor (DSP) performs signal identification (col. 18, lines 35-64).

59.   Referring to claim 27, Clare discloses the processor performs reconfiguration and
signal identification (e.g. abstract).

60.   Referring to claim 37, Clare-Wichter-Acampora discloses the invention
substantively as described in claim 1. Clare-Wichter-Acampora does not disclose
managing the plurality of network elements as a distributed database using a distributed
resource management protocol, wherein the plurality of network elements are reused
among different applications, wherein the network elements are used in multiple classes
of applications. Humpleman discloses managing the plurality of network elements as a
distributed database using a distributed resource management protocol, wherein the
plurality of network elements are reused among different applications, wherein the
network elements are used in multiple classes of applications (the servers and clients
can reside on the same node and execute both client and server applications) (col. 6,
lines 18-34).   It would be obvious to a person of ordinary skill in the art at the time the
invention was made to combine the teaching of Clare-Wichter-Acampora with
Humpleman to be able to control a plurality of diverse devices having different
capabilities to communicate in order to accomplish tasks or to provide a service as
supported by Humpleman (col. 2, lines 38-45).

        Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in
view of Clark (USPN 5,377,189, hereinafter Clark).

61.   Referring to claim 92, Clare discloses a sensor network comprising a plurality of

network elements including at least one node configured to be coupled among a

monitored environment, wherein the at least one node includes at least one sensor,

wherein the at least one node is further configured to process data gathered from the

monitored environment by the at least one sensor and to propagate a predetermined

identifying code representing the gathered data through the sensor network (See above

remarks regarding claim 1).

       Clare does not specifically disclose that the plurality of network elements is

configured to communicate a high priority message code for a high priority event,

wherein, in response to receipt of the high priority message code, the at least one node

is configured to broadcast one or more inhibit messages configured to inhibit messaging

from nodes not engaged in conveying the high priority event, and wherein a distribution

of data processing by the plurality of network elements varies based on a priority of the

message.

       In analogous art, Clark discloses a plurality of network elements that are

configured to communicate a high priority message code for a high priority event,

wherein, in response to receipt of the high priority message code, the at least one node

is configured to broadcast one or more inhibit messages configured to inhibit messaging

from nodes not engaged in conveying the high priority event (col. 1, lines 47-56; In order

to allow for immediate transmission of high-priority synchronous data, a high priority

contention signal is asserted to inhibit other nodes from processing lower-priority

asynchronous data), and wherein a distribution of data processing by the plurality of

network elements varies based on a priority of the message (col. 2, lines 63-66; col. 4,

lines 37-41).

It would have been obvious to one of ordinary skill in the art to combine the

teaching of Clark with Clare in order to allow for immediate transmission of important

high-priority messages without regard for transmission status of lower-priority messages

from other nodes in a network where nodes share a common transmission medium and

must contend for access (Clark, col. 2, lines 22-29).

Claim 94 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in

view of Clark and further in view of Acampora.

62.   Referring to claim 94, Clare and Clark do not specifically disclose communicating

an energy cost to the plurality of network elements, wherein the plurality of network

elements is configured to distribute data processing through the sensor network based

on the energy cost.

However, Acampora discloses a wireless mesh network of nodes (col. 12, lines

55-99; Fig. 1) wherein at least one node is configured to communicate an energy cost

(col. 14, lines 40-44; Based on communicated energy costs, a client calculates a

"lowest-cost" route for transmission of data to a destination) where the distribution of

data processing varies based on energy cost for communication (col. 4, lines 59-65; col.

6, lines 25-28; col. 10, lines 21-25; col. 10, lines 58-61).

It would have been obvious to one of ordinary skill in the art to combine the

teaching of Acampora with Clare-Clark in order to conserve power in devices with

limited power sources (i.e., battery powered), so that the duration of communication

connectivity may be maximized and to minimize the duration, frequency, inconvenience

and expense of battery recharging or replacement (Acampora, col. 4, lines 4-10).

Response to Arguments

63.   Applicant's arguments with respect to claims 1, 63, 83, 92, 101, 103 and 112

have been considered but are moot in view of the new grounds of rejection.

Allowable Subject Matter

64.   Claims 34 and 35 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Conclusion

65.   Applicant's amendment necessitated the new grounds of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott M. Sciacca whose telephone number is (571) 270-1919. The examiner can normally be reached on Monday thru Friday, 7:30 A.M. - 5:00 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott M. Sciacca/
Examiner, Art Unit 2478

/Kenny S Lin/
Primary Examiner, Art Unit 2478